induced inflammatory blisters. Our finding of synovial fluid daptomycin levels of 70% of serum is similar. In this case, however, daptomycin was assayed opportunistically, as the patient required repeat knee aspiration for culture after 2 weeks of therapy. It is probable, therefore, that the concentration of daptomycin in synovial fluid reflects either steady-state concentration or accumulation at the site of infection. The therapeutic daptomycin concentration at the site of infection in synovial fluid associated with clinical improvement when used in combination with sodium fusidate add to the data of daptomycin’s utility in osteoarticular infection. The efficacy of daptomycin in osteoarticular infections should be addressed prospectively in sufficiently powered, randomized, controlled trials.

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Transparency declarations
N. D. R.: none to declare. A. M. L. is a member of the Novartis daptomycin advisory board, UK. R. A. S. is a member of the Novartis daptomycin advisory board, UK and has spoken at Novartis sponsored symposia.

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Successful treatment of methicillin-resistant Staphylococcus aureus endocarditis with telavancin

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Sir,
Within our institution, we have recently seen an increase in bloodstream infections due to methicillin-resistant Staphylococcus aureus (MRSA) having decreased responsiveness to glycopeptides. Testing has revealed that these isolates are neither vancomycin intermediate nor heterogeneous vancomycin intermediate. Patients continue to be bacteraemic despite therapeutic levels of vancomycin. In September 2009, the FDA approved telavancin for the treatment of complicated skin and soft-tissue infections. To date, there have been no reports of the use of telavancin in bacteraemic patients. Here we report the successful use of telavancin for MRSA bacteraemia and rightsided endocarditis.

A patient with a history of hepatitis C and intravenous drug use presented with fevers and chills. Blood cultures grew MRSA (vancomycin MIC <0.5 mg/L, daptomycin MIC ≤1 mg/L) and he was begun on 15 mg/kg vancomycin every 12 h. He was found to have septic pulmonary emboli and a pleural effusion. A transoesophageal echocardiogram showed severe tricuspid valve regurgitation with a large tricuspid valve vegetation. Blood cultures remained positive through 8 days of vancomycin treatment with documented trough levels of 15–20 mg/L. Treatment was changed to 10 mg/kg telavancin intravenously every 24 h. Blood cultures became negative within 1 day of the start of telavancin. The patient’s creatinine was monitored and remained stable from admission. The patient underwent a tricuspid valve repair for severe tricuspid regurgitation ~1 month after his initial positive culture. He completed 4 weeks of telavancin and was discharged home in a stable condition 6 weeks after his admission. At follow-up 6 weeks after completing treatment, the patient was afebrile with documented negative blood cultures.

To our knowledge, this is the first case of persistent MRSA bacteraemia treated successfully with telavancin. Telavancin is a lipoglycopeptide with a mechanism of action similar to that of the glycopeptides but with an added mechanism that interferes with cell membrane function. It is reportedly rapidly bactericidal against S. aureus, thus having potential for use in bacteraemic patients. The study of telavancin in MRSA bacteraemia has been completed in murine models with the comparator being vancomycin. In this model, telavancin demonstrated greater killing activity than vancomycin, and a statistically significant difference in survival was found between the two groups with 0% survival for vancomycin and 93% for telavancin. These results have been attributed to the dual mechanism of action of telavancin as well as a longer post-antibiotic effect. With the increasing frequency of persistent MRSA bacteraemia with decreased responsiveness to vancomycin and failures reported with daptomycin after vancomycin use, new therapeutic options are desirable. Clinical studies will be necessary to determine whether telavancin offers advantages over other currently available antibiotics.

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References